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BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/619,609
Filing Date: July 16, 2003
Appellant(s): PLOTZ, KURT

George F. Lesmes
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 22, 2005 appealing from the Office action mailed June 6, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner, which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Application No. 09/619,531, filed July 19, 2000; and

Application No. 09/619,535, filed July 19, 2000.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) *Prior Art of Record*

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6,092,622	HIERS	7-2000
4,522,876	GREISER et al.	5-1991
4,522,876	HIERS	11-1985
4,569,088	FRANKENBURG et al.	2-1986

(9) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 4, 5, 9, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over GREISER et al. (US 5,017,426) in view of HIERS (US 6,092,622).

GREISER et al. discloses a laminate as a carrier web for roofing and sealing sheets with a two layer structure that reads on the present carrier, the reference further teaches that the needling is carried out in such a way that the needles first enter the synthetic fiber web and then penetrate through the material fiber web underneath and teaches pulling the synthetic fibers through the mineral fiber web. (Col. 2, lines 14-22). It is the Examiner's interpretation that it would be obvious to have organic fibers lying adjacent to the side of the fiberglass-containing mat. However, the patent is silent to having one or more layers coated on a glass fiber side of the carrier. HIERS et al. teaches a laminate structure that comprises a fiberglass containing mat and a nonwoven mat and teaches using needling to attach these. The reference further applies adhesive coatings to secure the "tufts" of fibers from the nonwoven mat to the surface. (Refer to Abstract and drawings).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the laminate of the '426 patent and provide with coatings with

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the motivation of securing the fibers from the nonwoven mat layer that penetrate the fiberglass mat to the surface of the mat as taught by HIERS.

Claims 1, 3-5, 9-11, 15, 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over BARAVIAN et al. (US 5,616,395) in view of HIERS (US 6,092,622) and further evidenced by HEIDEL (US 5,171,629)

BARAVIAN teaches a two-layer textile reinforcement for the production of bituminous sealing sheets for roofing, that consists of a first layer based on a nonwoven cloth consolidated by mechanical or hydraulic bonding and thermo stabilized, needled to a second mineral fibers layer, which may be in the form of a grid, scrim or cloth of continuous or discontinuous mineral filaments. (Abstract) The reference teaches applying heat to consolidate the nonwoven and teaches the use of filaments of a thermoplastic synthetic polymer such as a polyester, co-polyester, or polyamide. (Col. 2, lines 63-65 and Col. 3, lines 45-55). Baravian teaches that the second mineral layer preferably takes the form of a scrim of mineral fibers formed by wet or dry nonwoven processes, more particularly discontinuous glass fibers with chemical or thermal bonding. (Col. 3, line 65 through Col.3, line 5) The Examiner interprets chemical bonding as any type of resinous based binder. It is further the Examiner's position that the use of fiberglass mats pre-consolidated with a binder is known in the art of carrier web of the invention. This is evidenced by HEIDEL that discloses a carrier web that consists of a glass fiber mat and a mat of synthetic fibers, and teaches that the glass fiber mat can be preconsolidated using polymer binders or melamine resins. (Col. 2, lines 13-17) It is further noted that Baravian et al., teaches that the nonwoven sheet of polyolefin filaments is calendered under heat and pressure to achieve the desired shrinkage and density. (Col. 4, lines 45-57)

It is the Examiner's interpretation that the nonwoven base layer of the reference reads on the presently claimed nonwoven mat made of thermally fixed organic synthetic fibers and the mineral layer of the reference reads on the fiberglass-containing mat pre-consolidated with a binder. The layers are bound by needling.

However, the reference fails to specifically teach that part of the organic fibers penetrate through the fiberglass mat and lie adjacent to a side of the fiberglass containing mat that is opposite to the organic nonwoven mat. The reference is silent to the presently claimed one or more layers coated on a glass fiber side of the carrier, opposite the nonwoven synthetic mat. HIERS et al. discloses a flexible, thermal and acoustical insulating shield that has a needled, flexible, fibrous batt (40) and an insulating layer (43) of insulating fibers (44) disposed between opposite binding layers (41, 42) of binding fibers (45). The binding fibers of each binding layer are needledly disposed through the insulating layer and an opposite binding layer to provide tufts (46) of binding fibers protruding from the opposite binding layer so as to form a tufted upper surface. (Abstract) The reference teaches the use of glass fibers as the insulating fibers and the use of organic fibers such as polyester fibers and polyolefin fibers as the binding fibers. (Col. 9, lines 13-25) The reference further teaches the use of polyester adhesive applied to the batt by spraying or coating, the reference also teaches the use of acrylate adhesives. (Col. 9, lines 56 through Col. 10, lines 1-5)

It is the Examiner's interpretation of the reference that the fibrous batt of organic synthetic fibers of HIERS et al. equates to the nonwoven matt of the present invention, the insulating layer of glass fibers equates to the presently claimed fiberglass matt. The tufts of binding fibers protruding in the form of stitches from the opposite binding layer of HIERS et al.

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are equated to the organic fibers that penetrate through the fiberglass mat and lie adjacent to a side of the fiberglass-containing mat that is opposite to the organic nonwoven mat of the present invention. Further, with regards to the location of the organic fibers penetrating through the fiberglass mat, it is noted that it is the Examiner's position that these fibers penetrate and lie to the side opposite to the organic nonwoven mat. With regards to the one or more layers coated, the Examiner equates the coated adhesive layer of HIERs et al. to this limitation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the reinforcement material and provide with organic fibers that penetrate through the fiberglass mat and lie adjacent to a side of the fiberglass containing mat that is opposite to the organic nonwoven mat with the motivation of producing a flexible material with the needled layers of the invention of Baravian et al., such that the resulting layers are substantially non-detachable from each other and form an integral composite fabric as taught by Hiers.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over BAVARIAN et al. and HIERs et al. as applied above, and further in view of HIERs (US 4,522,876).

HIERs ('876) discloses an integral textile composite fabric having at least one organic textile fiber layer of needled textile organic fibers and at least one glass fiber layer. (Column 1, lines 6-8) The glass fibers may be any of the conventional glass fibers: C-glass fibers, S-glass fibers, and E-class fibers, among others. (Column 6, lines 63-65) The needled fabric may be sized or coated or filled or impregnated in a variety of manners. It teaches the use of polyethylene, acrylic and polyester coatings and also that it may be impregnated with a resin. (Column 11, lines 55-66)

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Since the references are directed to similar composite fabrics, the purpose disclosed by the '876 reference would have been recognized in the pertinent art of BAVARIAN et al. and HIERS et al. ('622). It is noted that the use of the particular glass fibers claimed herein would have been obvious at the time the invention was made to a person having ordinary skill in the art since these are conventional glass fibers known to be used in insulating products.

Claims 6-8, 14 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over BARAVIAN and HIERS as applied above, and further in view of HEIDEL et al. (US 5,171,629).

BARAVIAN et al. and HEIRS et al. fails to teach the use of filaments in the nonwoven and while the use of a binder to consolidate the fiberglass mat is discussed by HEIRS, the reference does not specifically suggests the use of a water insoluble binder such as a melamine resin or an urea resin binder.

HEIDEL et al. discloses a carrier web that consists of a glass fiber mat and a mat of synthetic fibers, which are needled together and are end-consolidated with a polymer-free low-formaldehyde melamine-formaldehyde precondensate. (Abstract) The reference teaches that the glass fiber mat contained in the carrier web according to the invention can be preconsolidated using polymer binders or melamine resins. (Column 2, lines 13-17) With regards to claims 6 and 11, the reference also teaches the use of polyester fibers in the synthetic fiber nonwoven and that it can be built up from staple fibers or from continuous fibers. Random nonwovens of continuous fibers, in particular types which have undergone a certain pre-consolidation by a calendering process, such as, spun-bonded materials, are particularly preferred. (Column 2, lines 25-30 and lines 44-51)

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To produce the carrier web the synthetic fiber nonwoven is needled to a glass fiber nonwoven, which is preconsolidated if appropriate, and is then impregnated by spraying, padding or dipping with an aqueous melamine-formaldehyde precondensate. (Column 3, lines 48-54) The reference teaches the use of their invention as a decoration carrier. (Column 4, line 4)

Since HEIDEL et al. is also directed composite webs, the purpose disclosed by HEIDEL would have been recognized in the pertinent art of HEIRS et al and BARAVIAN et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the textile composite fabric and further provide it with a melamine resin binder with the motivation of improving the burning properties of the material and providing it with high flexibility as disclosed by HEIDEL et al. (Column 3, lines 31-34).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over HEIRS et al. and BARAVIAN et al. as applied above, and further in view of FREKENBURG et al. (US 4,569,088).

BAVARIAN et al. and HEIRS et al. disclose the claimed invention except for using mechanical needling instead of hydraulic needling, FRANKENBURG et al. shows that hydraulic needling is an equivalent process known in the art. Therefore, because these two types of needling were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the mechanical needling of BAVARIAN et al. and HEIRS et al. for the hydraulic needling of FRANKENBURG et al.

Double Patenting

Claims 1, 4, 5, 9, 10 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 5,017,426 in view of HIERS (us 4,522,876). The '426 patent discloses a laminate as a carrier web for roofing and sealing sheets with a two layer structure that reads on the present carrier, the reference further teaches that the needling is carried out in such a way that the needles first enter the synthetic fiber web and then penetrate through the material fiber web underneath and teaches pulling the synthetic fibers through the mineral fiber web. (Col. 2, lines 14-22). It is the Examiner's interpretation that it would be obvious to have organic fibers lying adjacent to the side of the fiberglass-containing mat. However, the patent is silent to having one or more layers coated on a glass fiber side of the carrier. HIERS et al. teaches a laminate structure that comprises a fiberglass containing mat and a nonwoven mat and teaches using needling to attach these. The reference further applies adhesive coatings to secure the "tufts" of fibers from the nonwoven mat to the surface. (Refer to Abstract and drawings).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the laminate of the '426 patent and provide with coatings with the motivation of securing the fibers from the nonwoven mat layer that penetrate the fiberglass mat to the surface of the mat as taught by HIERS. (Above)

(10) Response to Argument

(i) With regards to the rejection based on BARAVIAN et al. '395 in view of HIERS et al. '622; Appellants argue that the examples of the prior art of BARAVIAN et al. only employ adhesive bonding which basically adheres only the surfaces of the two layers and that the present

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claims, by virtue of the words “consisting essentially of” exclude the use of adhesives which merely bond the surfaces of the layers and are not homogeneously distributed throughout the laminate as opposed to the needling technique employed in the present invention. Appellant further contends that the glass fibers layer is not consolidated and the needling taught by the combination of BARAVIAN et al., in view of HIERS does not meet the limitation of joining the instantly claimed glass non-woven and synthetic non-woven by needling such that a portion of the fibers of the synthetic non-woven layer passes through glass non-woven layer. These arguments are not found persuasive. It is further argued by Appellant that the BARAVIAN et al. ‘395 reference teaches away from pre-consolidation of the mineral fibers web since it states that consolidation and thermostabilization take place only in the synthetic fiber layer.

With regards to Appellant’s argument that the glass fiber taught in Baravian et al., is not consolidated, the Examiner respectfully points out that the present invention recites the limitation of a fiberglass containing mat pre-consolidated with a binder. It is the Examiner’s position that Baravian et al., meets said limitation with the disclosure of providing a second mineral layer in the form of a scrim of mineral fibers formed by wet or dry non-woven processes, more particularly discontinuous glass fibers with chemical or thermal bonding (Col. 3, line 65 – Col. 3, line 5) It is the Examiner’s position that chemical bonding is interpreted as any type of resinous based binder. With regards to Appellant’s argument that the combination of references fails to teach needling such that the organic fibers penetrate through the fiberglass mat and lie adjacent to a side of the fiberglass containing mat that is opposite to the organic non-woven mat, it is the Examiner’s interpretation that BARAVIAN et al., clearly teach needling the non-woven base layer with the second mineral layer and that adhesively bonding in addition to any needling

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operation is not precluded from the present claims. It is further noted that while BARAVIAN et al. may not exemplify needling as a technique for joining the two layers together, to ignore the disclosure directed to needling either solely or with the addition of adhesive bonding would be improper. The Examiner maintains herein that needling would inherently pass fibers through the layers and would penetrate and lie on the opposite side of the fiberglass containing layer forming tufts to produce layers that are substantially non-detachable from each other as taught by HIERS. With regards to the combination of BARAVIAN et al. '395 and HIERS et al. '622, Appellants argue that the Examiner is not bodily incorporating the three-layer laminate of HIERS et al. in the two-layer structure of BARAVIAN '395 as implied by Appellants, but to provide the modification of having tufts formed by needling with the motivation of provide non-detachable layers in a laminate.

It is further argued that the resultant laminate from the combination of BARAVIAN '395, HIERS '622 and HIERS '976 would not suggest the present claimed *wall and floor coverings*. It is noted that a preamble is denied the effect of a limitation where the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951). It is noted herein that the structure being claimed is a carrier from which wall and floor coverings are based and that the prior art of record provides all the structural limitations of the carrier (which is a laminate), claimed in the present application.

With regards to arguments indicating that the Frankenburg et al. '088 is directed to the manufacture of garments and that the prior art of Baravian et al. and Hiers et al. are not directed to that field, it is noted that the three references are directed to laminates and therefore are

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analogous art. It is further noted that the Baravian reference also recognizes water jet (hydrodynamic needling) as an equivalent to needling. (Refer to Col. 2, lines 59-62)

(ii) With regards to the prior art of GREISER et al. '426, Appellants argue that neither the specification nor drawing of the reference discloses needling in such a manner that a part of the synthetic fibers penetrate the outer surface of the glass fibers layer and lie adjacent thereto. Appellants further argue that it would not have been obvious to those of ordinary skill to combine GREISER et al. '426 with HIERS et al. '622 because they those seeking to improve the properties of roofing or sealing membranes would not be motivated to look to documents in the area of automobile thermal and acoustical shields. It is further argued that the '426 reference also does not disclose using pre-shrunk synthetic fibers. Appellants further argue that the HIERS '622 teaches away from using heat-shrinkable fibers.

It is noted herein that the Examiner has relied on the teachings of HIERS to provide the synthetic fibers on the outer surface of the glass fiber layer and lie adjacent thereto. It is maintained herein that needling would inherently pass fibers through the layers and would penetrate and lie on the opposite side of the fiberglass containing layer forming tufts to produce layers that are substantially non-detachable from each other as taught by HIERS. It is further noted that both the GREISER et al. '426 and HIERS et al. '622 references are directed to laminates and both are analogous to the claimed invention, further they both work to solve the same problem, avoid delamination. Therefore, they are analogous and the prior art of HIERS et al. would have been recognized by GREISER et al. The GREISER et al. reference teaches that the synthetic fibers web comprises polyester fibers, which are pre-consolidated by needling or

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other methods known per se. (Col. 1, lines 53-58) It is the Examiner's interpretation that polyester fibers comprise heat-shrinkable fibers and that among "other methods known" is thermal fixation of organic synthetic fibers, which is *recognized* by the disclosure of HIERS. The Examiner concludes that thermal fixation is a known method used in pre-consolidation (as evidenced by HIERS), therefore must be recognized as one of the "other methods known" by GREISER et al.

(iii) It is noted herein that the obviousness double patenting rejection over U.S. Patent 5,017,426 in view of U.S. Patent No. 4,522,876 is maintained. There is no Terminal Disclaimer in file addressing such rejection. The obviousness double patenting over copending Application No. 09/619,535 has been overcome by the Terminal Disclaimer filed May 23, 2005.

(11) Related Proceeding(s) Appendix


No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

nlt
December 7, 2005

Conferees:
Carol Chaney CC
Terrel Morris -FM


NORCATORRES
PRIMARY EXAMINER

BUCHANAN INGERSOLL PC
(INCLUDING BURNS, DOANE, SWECKER & MATHIS)
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404